Jan: 28th 1829 g No 40

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An Paped March 6. 1829

Inaugural Dissertation

On

Cholera Morbus;

For the degree

Of

Doctor of Medicine,

In the

University of Pennsylvania.

(exd)

By David M. Fort

Of

Pennsylvania.

January 20th

1829.

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Cholera Morbus.

This is a disease to which the inhabitants of warm climates are peculiarly liable; though no climate or season is exempt from its visitations: and it occurs sufficiently often in this country, to merit a considerable share of our attention. It is most apt to occur in the latter part of summer, when the heat is excessive, or when there are sudden changes of temperature: and the violence of the disease is generally greater in proportion to the intenseness of the heat.

Causes. The causes of this disease are, the combined influence of heat and miasmata; rapid atmospherical vicissitudes, as regards temperature or moisture; exposure to night air, cold and moisture applied to the feet, suppressed perspiration, cold drinks, and indigestible articles taken into the stomach; as unripe fruit, watery vegetables &c. violent fits of anger:

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and it is also said to have been produced by acrid medicines.

Symptoms. This disease is generally preceded by a collapse of the system, which is evinced by some creeping sensations of cold attended by yawning, oppression about the precordia, and cold feet; pulse smaller than usual and rather quicker, skin cool and not in a perspirable state. These symptoms are soon followed by soreness, distention and flatulency of the abdomen, with griping pains in the bowels, accompanied with frequent stools; which are at first natural, or thin and watery. The stomach at the same time is seized with sickness, discharges its contents, and rejects whatever is taken into it. In a short time there are copious bilious discharges both by vomiting and stool. In consequence of the irritation of the passing bile, the griping pains of the intestines become more severe; they are

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excited to irregular and spasmodic contractions, which are often communicated to the abdominal muscles, and to the muscles of the lower extremeties. There is pain and great heat in the stomach, arising probably from the same cause.

There is intense thirst; and the head is often sympathetically affected with pain; the pulse is small and frequent, and the skin hot.

To these symptoms succeed extreme languor, debility and faintness, sometimes attended with colliquative sweats, coldness of the extremities; and finally, death.

Diagnosis. The only diseases with which cholera morbus is liable to be confounded, are colic, dysentery, and diarrhoea. It may be distinguished from the former, by the absence of constipation, which almost always attends colic, and from the two latter, by the violence of the spasms, and vomiting; and by the discharges being bilious,

matter unmixed with blood or mucus.

Prognosis. When there is a subsidence of the turbulent state of the alimentary canal, a gradual diminution of all the symptoms, succeeded by undisturbed sleep, a moisture of the skin, and an increase of the pulse, we may expect a favourable termination. But on the other hand, when there is extreme perturbation, hurried respiration; cold, clammy surface, convulsions, delirium, tumid abdomen, hiccup, haggard countenance, and an intermitting pulse, we may look for an unfavourable result.

Dissections show marks of inflammation in the mucous coat of the stomach and duodenum, and the bloodvessels throughout the alimentary canal appear congested. The viscera are sometimes removed from their proper situation, and an accumulation of bile is often found in the stomach and intestines.

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The brain is often found engorged with blood, and in very violent cases extravasations and effusions take place. The liver, spleen, and sometimes nearly all the abdominal viscera, are found much congested.

Treatment. In some cases of this disease opium, freely administered, at the commencement, will check vomiting, counteract the primitive irritation, and sooth all the unpleasant symptoms. Nevertheless, as a general rule, it will be found expedient, first to relieve the stomach of its irritating contents. For this purpose many practitioners adhere to the ancient plan of using diluent drinks, such as chamomile-tea, warm water, barley or chicken water, &c. in great quantities. Conceiving the disease to arise from acrid bile, they pursue the treatment for morbid poisons, pouring diluents into the stomach to wash away the offensive accumulations.

That this plan may, occasionally, prove successful, I have no doubt, but since emetics are more prompt, certain, and effectual in their operation, they should always be preferred. The best emetic for this purpose is ipecacuanha; twenty grains of which should be given, and its operation promoted by copious draughts of warm water, or chamomile tea; this will usually have the effect of relieving the stomach and general system from oppression, promoting reaction, and equalizing excitement. Our next object is to calm the irritability of the stomach and remove the spasmodic pains. There are several remedies suited to this indication, of which bleeding is the most important; but it should always be employed with circumspection, and in some cases, where there is high arterial action, and determination to the head, it should precede emetics. The state of the pulse however,

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is not to be our only guide; for where there is much pain, and the pulse at the same time is feeble, it is generally oppressed, and by detracting blood it will be found to rise. Hence, although the state of the pulse may not seem to indicate it, if the pain and spasms are severe, and there is an ordinary degree of vigor in the patient, venesection should be employed. In all doubtful cases however, bleeding should be preceded by the warm bath, and on coming out, using frictions, and embrocating with some stimulating liniment, until reaction is established; and then draw blood, cautiously watching its effects on the system. Leeches applied to the epigastrium is one of our most efficient means of checking vomiting.

Much has justly been said of opium in this disease, and as I have already mentioned, it may be given either at the commencement

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of the attack, or after active depletion. But in whatever stage it may be administered, most benefit will be derived from using it in form of injection, especially where the stomach is very irritable; five or six grains of opium dis-solved in a gill of warm water, or two drams of laudanum in a gill of mucilage, to be re-peated every three or four hours, according to circumstances. When given by the mouth, it should always be given in the solid form; and an old pill is best: it may be given in doses of two or three grains, every two or three hours: the dose is said by Thomas, to have been increased to eight or ten grains, in very urgent cases.
To aid in calming irritation and reliving spasms, warm fomentations; as cloths wrung out of hot spirits or brandy, or clove bags, may be applied to the epigastrium, and abdomen generally. Also a cataplasm of camphor and opium or

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pulverized pepper, ginger, or other spices, formed into a plaster, by means of soap, and moistened with spirits or laudanum, and applied to the epigastrium. And we may give internally for the same purpose, calomel in small doses, or as some recommend, calomel and opium combined, or small doses of saccharum saturni, or lime water and milk, or small doses of soda or seltzer water, or what is very highly recommend-ed, the following mixture :-

℞. Fuming nitrous acid ℥i
Camphorated mixture ℥viii
Tincture of opium gtt. lx M.

a tablespoonful of which may be given every fifteen minutes. In obstinate cases, where the symptoms continue violent, and the patient appears to be sinking, sinapisms should be applied to the epigastrium and extremities, or the nitric acid applied to the epigastrium

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as an epispastic; this may be done by mixing two parts of the acid with one of water, and applying it with a feather, and allowing it to remain until pain is felt, and then neutralizing it by a solution of carbonate of potash. The best internal remedy in this stage is spirits of turpentine: it may be given in doses of fifteen or twenty drops every hour or two; we may also give hot brandy toddy, and use frictions with laudanum, over the abdomen and limbs. We sometimes meet with most tremendous attacks, where life appears to be in imminent danger if relief is not promptly afforded; here we must depend upon copious bleeding, and the administration of opium in large doses, together with the remedies above-mentioned. In India where this disease is very common, and where its attacks are very sudden and violent; the practice according

to Johnson, is copious bleeding, followed by the administration of twenty grains of calomel, combined with one hundred drops of laudanum, aided by the warm bath, sinapisms &c. In the W. Indies, some practice binding the patient down to a table, or board, with straps, so that he cannot stir, and that the abdominal muscles cannot act; and then give laudanum. Hitherto I have said nothing of purgatives in this disease, which I consider very important remedies in every form of it; after we have subdued, or allayed irritation, we should begin with small doses of calomel; say two grains every hour, until fifteen or twenty grains have been taken, and then work it off with Epsom salts, or castor oil. This disease is liable to return; to obviate which, the patient should avoid all exciting causes, or any means that have a tendency to promote a relapse. Flannel should be worn next the skin, and night air particularly avoided.

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The diet should be light and nutritious, the bowels kept in a soluble state, by the use of calomel, rhubarb, magnesia, or the neutral salts. To restore tone to the system, when the attack has been severe, bitters, as quassia, serpentaria, columbo &c. should be employed. The elixir of vitriol is also used with advantage, in doses of ten drops two or three times a day.